

(a) a defective retroviral genome lacking functional *env* and functional *gag-pol* genes [but having the remaining components essential for retroviral functions]; and

(b) the heterologous gene; and

a second DNA sequence [capable of] encoding packaging components *env* and *gag-pol*, wherein the DNA sequence encoding *env* is present on a separate construct than the DNA sequence encoding *gag-pol*;

(ii) production of replication defective retroviral vector particles *in vivo* by the producer cell; and

(iii) virus-mediated delivery of the heterologous gene to the target cell *in vivo*.

51. (AMENDED) A producer cell [capable of producing a replication defective retroviral vector in an infective retroviral particle, the producer cell comprising a set of DNA sequences] comprising:

a first DNA sequence encoding a replication defective retroviral vector, which comprises

(i) a defective retroviral genome lacking functional *env* and functional *gag-pol* genes [but having the remaining components essential for retroviral function]; and

(ii) at least one heterologous gene; and

a second DNA sequence [encoding a DNA sequence capable of] encoding packaging components *env* and *gag-pol* wherein the DNA sequence encoding *env* is present on a separate construct [to] than the DNA sequence encoding *gag-pol* which producer cell is a fresh cell from a subject [and is capable of delivering the heterologous gene to a target cell within the subject by *in vivo* production of replication defective retroviral vector particles].

59. (AMENDED) A method for making a producer cell *in vivo* in a subject [which producer cell is capable of producing a replication defective retroviral vector in an infective retroviral particle, which comprises the] comprising a step of introducing a set of DNA sequences into a cell within the subject, said set of DNA sequences comprising:

a first DNA sequence encoding replication defective retroviral vector, which comprises

a defective retroviral genome lacking functional *env* and functional *gag-pol* genes [but having the remaining components essential for retroviral function], and